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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,769	11/26/2003	Robert A. Bellman	SP02-260	7200
22928	7590	07/27/2006	EXAMINER	
CORNING INCORPORATED			CHEN, KIN CHAN	
SP-TI-3-1			ART UNIT	PAPER NUMBER
CORNING, NY 14831			1765	

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/722,769
Filing Date: November 26, 2003
Appellant(s): BELLMAN ET AL.

Siwen Chen
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 22, 2006 appealing from the Office action mailed October 24, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

Art Unit: 1765

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,740,590

YANO et al.

5-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yano et al. (US 6,740,590; hereinafter "Yano").

In a method for chemical mechanical polishing, Yano teaches a slurry may **comprise** non-agglomerated multi-component particles of inorganic particles (**col. 7, lines 7-12**; so-called a mixed oxide in the instant claim) composition having an isoelectric point greater than the pH of dispersed particles in solution. Yano teaches that the polymer particles may be used to form aggregates with inorganic particles (**Figs. 2 and Fig.8**; page 15, lines 11-17; page 25, lines 8-10) and produce uniformed **dispersed composite particles** (abstract), therefore, produce the dispersed (so-called non-agglomerated in the instant claim) particles of inorganic particles (so-called a mixed oxide in the instant claims), **as clearly shown in Fig. 2**. Yano teaches that a surface of the workpiece may be abraded with the multi-component particles. Since the same inorganic particles (so-called a mixed oxide in the instant claim) used for the same CMP process, each particle exhibits a modified surface chemistry performance inherently. It is expected that the particle surface chemistry is modified (the isoelectric point of the multi-component particle is displaced toward an alkaline pH value) relative to the surface chemistry performance of the individual, original base constituents of the particle. See abstract; cols. 7 and 8.

Claims 4-6, 8-12, 14-24, and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yano et al. (US 6,740,590; hereinafter "Yano").

In a method for chemical mechanical polishing, Yano teaches a slurry may **comprise** non-agglomerated multi-component particles of inorganic particles (**col. 7, lines 7-12**; so-called a mixed oxide in the instant claim) composition having an isoelectric point greater than the pH of dispersed particles in solution. Yano teaches that

Art Unit: 1765

the polymer particles may be used to form aggregates with inorganic particles (**Figs. 2 and Fig.8**; page 15, lines 11-17; page 25, lines 8-10) and produce uniformed **dispersed composite particles** (abstract), therefore, produce the dispersed (so-called non-agglomerated in the instant claim) particles of inorganic particles, **as clearly shown in Fig. 2**. Yano teaches that a surface of the workpiece may be abraded with the multi-component particles. Yano teaches that pH value may be adjusted depending on the particle type (col. 8, lines 5-10). Since the same inorganic particles (so-called a mixed oxide in the instant claim) used for the same CMP process, it is expected that each particle exhibits a modified surface chemistry performance. It is further expected that the particle surface chemistry is modified (such as the isoelectric point of the multi-component particle is displaced toward an alkaline pH value) relative to the surface chemistry performance of the individual, original base constituents of the particle. See abstract; cols. 7 and 8.

The limitations of claims 4-6, 8-12, 14, 21, and 31 have been addressed above and rejected for the same reasons, *supra*.

When the examiner has reason to believe that functional language asserted to be critical for establishing novelty in claimed subject matter may, in fact be an inherent characteristic of the prior art as discussed above, the burden of proof is shifted to the applicant to prove that the subject matter shown in the prior art does not possess the characteristics relied upon. In re Fitzgerald et al. 205 USPQ 594. Whether the rejection is based on "inherency" under 35 U.S.C. §102, or on "prima facie obviousness" under 35 U.S.C. §103, jointly or alternatively.

In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980). Ex parte Bylund 217 USPQ 492 (PO BdPatApp 1981); In re Hallman 210 USPQ 609 (CCPA 1981). See also In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977).

As to claims 16-20, Yano teaches the ranges of inorganic particles (so-called a mixed oxide) sizes, see col. 9, lines 6-9.

Dependent claims 15 and 26-30 differ from Yano by specifying pre-selected surface chemistry and hardness tailored to the workpiece surface; non-planarized surface, metallized interconnection structure, interlevel dielectric structure. However, they are merely a matter of choices of design depending on product requirement. Hence, it would have been obvious to one with ordinary skill in the art to use different choices of design in order to make various semiconductor devices as required and produce an expected result.

Dependent claims 22-24 differ from Yano by specifying conventional methods of forming particles or slurry in the art of semiconductor device fabrication. A person having ordinary skill in the art would have found it obvious to modify Yano by adding any of same conventional method to same in order to provide their art recognized advantages and produce an expected result.

The examiner takes official notice of facts that appellant did not traverse the aforementioned conventionality (e.g., well-known features, common knowledge, obviousness), which have been stated in the previous office action (March 3, 2005).

(10) Response to Argument

Appellant has argued that Yano does not teach "non-agglomerated multi-component particles of a mixed-oxide". It is incorrect. As has been stated in the office action, Yano teaches using that the polymer particles may be used to form aggregates with inorganic particles (Figs. 2 and Fig.8) and produce uniformed **dispersed composite particles** (abstract), therefore, produce the dispersed (so-called non-

Art Unit: 1765

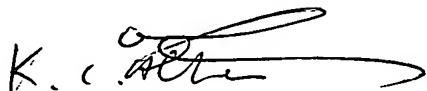
agglomerated in the instant claim) particles of inorganic particles (so-called a mixed oxide in the instant claims), as clearly shown in Fig. 2.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Kin-Chan Chen
Primary Examiner
Art Unit 1765

July 18, 2006

Conferees:

Nadine Norton - SPE 1765



Glenn Caldarola - SPE 1764

